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Seeing Eye to Eye

Doctor of Philosophy

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> Image created at the University of Alberta

Semi-Finalist

We have been studying a gene in zebrafish (called uncl 19b) that is required for many developmental processes, including eye formation. On the left is a cross-section of a normal zebrafish eye at 3 days old that has been stained with fluorescent antibodies. The lens is surrounded by green (a lens marker) while the blue (a nuclei marker) and red (an actin marker) illustrate the many layers of the developing retina. However, on the right is an eye at the same age that is lacking uncl 19b. Not only is the eye smaller, but the layers of the eye appear disorganized and there are blue nuclei within the lens which should be absent. As an uncl19b mutation in humans has been identified that affects proper eye morphology, we can now use zebrafish in order to study the consequences of these mutations.